1. Consider the following solutes in water:
   \[
   \text{C}_6\text{H}_{12}\text{O}_6 \quad \text{BaSO}_4 \quad \text{HNO}_3 \quad (\text{NH}_4)_2\text{CO}_3 \quad \text{CH}_3\text{COOH}
   \]
   
   a. Identify each as either: strong electrolyte (SE), weak electrolyte (WE) or non-electrolyte (NE)

   b. If all solutions are 1.0 M, put in order of lowest to highest conductivity.

2. Calculate the concentration of each ion if 1.00 g ammonium carbonate is dissolved in 250. mL

3. What is the final chloride ion concentration if 59.3 g NaCl is added to 400. mL of 0.50 M barium chloride?
4. What volume of 4.20 M HCl is required to prepare 12.0 L of 0.210 M HCl?

5. If 100. mL of 0.200 M silver nitrate is added to 200. mL of 0.150 M barium chloride...
   a. Write the balanced molecular equation, complete ionic equation and the net ionic equation. (use the solubility rules to help you)
   
   b. What will be the mass of precipitate formed?
   
   c. Calculate the concentration of each ion remaining in solution after the above reaction is complete.